

REMARKS

The office action of December 14, 2005, has been carefully considered.

It is noted that claim 35 is rejected under 35 U.S.C. 103(a) over the patent to Metzner et al. in view of the patent to Niitsuma et al.

In view of the Examiner's rejection of the claim applicant has amended claim 35.

It is respectfully submitted that the claim presently on file differs essentially and in an unobvious, highly advantageous manner from the constructions disclosed in the references.

Turning now to the references and particularly to the patent to Metzner et al., it can be seen that this patent discloses a rotary punch and die mechanism. Metzner et al. provide no teaching relative to the field of metallurgy. There is no motivation for applying the teachings of Metzner et al. concerning working of a paper web to metallurgy and the transverse cutting of a steel strip, as in the presently claimed invention. Metzner et al. have

punches on the perimeter of a drum. Metzner et al. make no mention of a shear as taught in the presently claimed invention, particularly no mention of shears for transverse sectioning of steel strip. This difference is already apparent due to the discussion in Metzner et al. of "piercing pins" while claim 35 of the present application recites a high speed shear. A "shear" and "piercing pins" are quite different in construction and operation. A further difference between the present invention and Metzner et al. is that Metzner et al. only provide a hole in the paper web. There is no teaching of a shear that extends over the entire length of the drum in order to transversely segment the steel strip.

Although Metzner et al. teach a drive arrangement for driving both drums in the driving direction, there is no teaching of accelerating the drums to a speed corresponding to a feeding speed of a rolled strip to be cut. The functioning of the apparatus of Metzner et al. is not dependent on the speed of the drum matching the speed of the paper web. Moreover, the difference in the speeds allows adjustment in the spacing between the individual perforations.

Metzner et al. also do not teach a separate adjusting device

for adjusting the drums relative to each other for carrying out a cut, as in the presently claimed invention. Metzner et al. only teach an adjusting device for adjusting the punch, not a device for adjusting the drum.

Furthermore, the knife and the link in the presently claimed invention are held unyieldingly, whereas the punch element of Metzner et al. is held yieldingly by a spring. Also, as acknowledged by the Examiner, Metzner does not teach an adjusting device supported against a spring element with a predeterminable restoring force. As shown in Fig. 8 of Metzner et al., the adjusting device is not supported by a spring, but instead is driven only by an eccentric 40.

An important difference is that the rotational bearing points of both drums of Metzner et al. are obviously fixed as to location. Neither of the drums is mounted a spring loaded pivot so that the center axis of the drum can be moved, as in the presently claimed invention. Finally, Metzner et al. give no suggestion or teaching of a construction having a spring-loaded knife drum and an adjusting device that cooperate to carry out a transverse cut of a steel strip.

The patent to Niitsuma et al. discloses a horizontal perforation forming apparatus for a rotary press. Niitsuma et al. also teach a perforation apparatus, not a cutting device.

The Examiner combined Niitsuma et al. with Metzner et al. in determining that claim 35 would be unpatentable over such a combination. Applicant respectfully submits that neither of these references, nor their combination, teach a high-speed shear having the features recited in the claim presently on file and as discussed above. Although Fig. 7 of Niitsuma et al. shows a device for axially moving the two drums relative to one another, there is no teaching or suggestion of automating this movement and synchronizing it with an adjusting device, as in the presently claimed invention ("...the knife drum cooperates with the adjusting device"). This is because the apparatus of Niitsuma et al. is only intended for manual movement of the drums to accommodate different thicknesses of material to be perforated or to compensate for wear of the cutting blades over time. For compensation purposes a one time adjustment is completely sufficient. An automatic and periodic adjustment of both drums relative to one another for every cut to be carried out is not taught or suggested by Niitsuma et al.

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In view of these considerations it is respectfully submitted that the rejection of claim 35 under 35 U.S.C. 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

By 

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450 Alexandria, VA 22313-1450, on March 14, 2006.

By:


Friedrich Kueffner

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